

Attorney Docket No.: T3110(C)
Serial No.: 10/587,722
Filed: July 27, 2006
Confirmation No.: 2308

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

Claim 1 (Currently Amended) Porous bodies which are soluble ~~or dispersible~~ in non-aqueous media comprising a three dimensional water-in-oil open cell lattice containing

- (a) 10 to 95% by weight of a polymeric material which is soluble in ~~water-immiscible~~ the non-aqueous media and
- (b) 5 to 90% by weight of a surfactant which is soluble in the non-aqueous media,

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g; and wherein a water soluble material and/or a water-insoluble material, neither of which is soluble in the non-aqueous media, is incorporated into the lattice of said porous bodies to be dispersed in the non-aqueous media when said porous bodies dissolves ~~dissolves or disperses~~ in the non-aqueous media in less than 3 minutes.

Claim 2 (Previously presented): Porous bodies as claimed in claim 1 wherein the bodies are in the form of powders, beads or moulded bodies.

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Claim 3 (Previously presented): Porous bodies as claimed in claim 1 wherein the polymeric material is a homopolymer or copolymer made from one or more of the following (co)monomers:-

Alkenes; dienes; urethanes; vinyl esters; styrenics; alkyl (meth)acrylates; alkyl (meth)acrylamides; (meth)acrylonitrile; vinyl ethers; imides; amides; anhydrides, esters; ethers, carbonates; isothiocyanates; silanes; siloxanes; sulphones; aliphatic and aromatic alcohols; aromatic and aliphatic acids; aromatic and aliphatic amines.

Claim 4 (Currently amended): Porous bodies as claimed in claim 3 wherein the polymeric material is a polystyrene homopolymer or polyvinyl acetate.

Claim 5 (Canceled):

Claim 6 (Currently amended): Porous bodies as claimed in claim 5-1 wherein the water soluble material is selected from water soluble vitamins; water soluble fluorescers; activated aluminium chlorohydrate; transition metal complexes used as bleaching catalysts; water soluble polymers; diethylenetriaminepentaacetic acid (DTPA); primary and secondary alcohol sulphates containing greater than C8 chain length or mixtures thereof.

Claim 7 (Currently amended): Porous bodies as claimed in claim 5-1 wherein the water insoluble material is selected from the group consisting of antimicrobial agents; antidandruff agent; skin lightening agents; fluorescing agents; antifoams; hair conditioning

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agents; fabric conditioning agents; skin conditioning agents; dyes; UV protecting agents; bleach or bleach precursors; antioxidants; insecticides; pesticides; herbicides; perfumes or precursors thereto; flavourings or precursors thereto; pharmaceutically active materials; hydrophobic polymeric materials; and mixtures thereof.

Claim 8 (Withdrawn): A method for preparing porous bodies which are soluble or dispersible in non-aqueous media comprising a three dimensional open cell lattice containing

(a) 10 to 95% by weight of a polymeric material which is soluble in water immiscible non-aqueous media and

(b) 5 to 90% by weight of a surfactant,

said porous bodies having an intrusion volume as measured by mercury porosimetry of at least about 3 ml/g

comprising the steps of:

a) providing an intimate mixture of the polymeric material and the surfactant in a liquid medium

b) providing a fluid freezing medium at a temperature effective for rapidly freezing the liquid medium;

c) cooling the liquid medium with the fluid freezing medium at a temperature below the freezing point of the liquid medium for a period effective to rapidly freeze the liquid medium; and

d) freeze drying the frozen liquid medium to form the porous bodies by removal of the liquid medium by sublimation.

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Claim 9 (Withdrawn): A method as claimed in claim 8 wherein the cooling of the liquid medium is accomplished by spraying an atomised water-in-oil emulsion into the fluid freezing medium; by dropping drops of a water-in-oil emulsion into the fluid freezing medium or by pouring a water-in-oil emulsion into a mould and cooling the emulsion in the mould.

Claim 10 (Withdrawn): A method as claimed in claim 8 wherein the polymeric material is a homopolymer or copolymer made from one or more of the following (co)monomers:-
Alkenes; dienes; urethanes; vinyl esters; styrenics; alkyl (meth)acrylates; alkyl (meth)acrylamides; (meth)acrylonitrile; vinyl ethers; imides; amides; anhydrides, esters; ethers, carbonates; isothiocyanates; silanes; siloxanes; sulphones; aliphatic and aromatic alcohols; aromatic and aliphatic acids; aromatic and aliphatic amines

Claim 11 (Withdrawn): A method as claimed in claim 10 wherein the polymeric material is polystyrene or polyvinyl acetate.

Claim 12 (Withdrawn): A method as claimed in claim 9 wherein the surfactant is non-ionic, anionic, cationic, or zwitterionic.

Claim 13 (Withdrawn): A method as claimed in claim 9 wherein the surfactant has an HLB value of 3 to 6.

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Claim 14 (Withdrawn): A method as claimed in claim 9 wherein the surfactant is selected from the group consisting of ethoxylated triglycerides; fatty alcohol ethoxylates; alkylphenol ethoxylates; fatty acid ethoxylates; fatty amide ethoxylates; fatty amine ethoxylates; sorbitan alkanoates; ethylated sorbitan alkanoates; alkyl ethoxylates; pluronics; alkyl polyglucosides; stearyl ethoxylates; alkyl polyglycosides; alkylether sulfates; alkylether carboxylates; alkylbenzene sulfonates; alkylether phosphates; dialkyl sulfosuccinates; alkyl sulfonates; soaps; alkyl sulfates; alkyl carboxylates; alkyl phosphates; paraffin sulfonates; secondary n-alkane sulfonates; alpha-olefin sulfonates; isethionate sulfonates; fatty amine salts; fatty diamine salts; quaternary ammonium compounds; phosphonium surfactants; sulfonium surfactants; sulfonxonium surfactants; N-alkyl derivatives of amino acids (such as glycine, betaine, aminopropionic acid); imidazoline surfactants; amine oxides; amidobetaines; and mixtures thereof.

Claim 15 (Withdrawn): A method as claimed in claim 9 wherein the intimate mixture is a water-in-oil emulsion,

Claim 16 (Withdrawn): A method as claimed in claim 15 wherein the discontinuous phase of the emulsion comprises 10 to 95% by volume of the emulsion,

Claim 17 (Withdrawn): A method as claimed in claim 15 wherein the discontinuous phase of the emulsion comprises 20 to 60% by volume of the emulsion,

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Claim 18 (Withdrawn): A method as claimed in claim 15 wherein the discontinuous phase of the emulsion is selected from the group consisting of alkanes; cyclic hydrocarbons; halogenated alkanes; esters; ketones; ethers; volatile cyclic silicones; and mixtures thereof,

Claim 19 (Withdrawn): Solutions or dispersions comprising a polymeric material and surfactant formed by exposing the porous bodies of claim 1 to a non-aqueous medium.

Claim 20 (Withdrawn): Solutions or dispersions comprising a polymeric material, surfactant and a hydrophilic material formed by exposing the porous bodies of claim 5 having the hydrophilic material contained therein to a non-aqueous medium.

Claim 21 (Currently amended): Porous bodies as claimed in claim 1 wherein said porous ~~body dissolves or disperses~~ bodies dissolve in the non-aqueous media in less than 30 seconds.

Claim 22 (Previously presented): Porous bodies as claimed in claim 1 wherein said porous ~~body~~ bodies are made by a process comprising the steps of:

- a) providing an intimate mixture of the polymeric material, ~~and the surfactant,~~
and the water-soluble and/or water insoluble material in a liquid medium
- b) providing a fluid freezing medium at a temperature effective for rapidly freezing the liquid medium;

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c) cooling the liquid medium with the fluid freezing medium at a temperature below the freezing point of the liquid medium for a period effective to rapidly freeze the liquid medium; and

d) freeze drying the frozen liquid medium to form the porous bodies by removal of the liquid medium by sublimation.

Claim 23 (New): Porous bodies as claimed in claim 1 wherein the porous bodies dissolve in the non-aqueous media in less than 3 minutes when 0.1gm of the porous bodies are stirred with 2 ml of the non-aqueous media at 20°C.